YSI P 700 IQ Orthophosphate Analyzer
Orthophosphate Measurement for the
IQ SensorNet System

The P 700 for orthophosphate measurement can be used as a stand alone analyzer or networked with other sensors in an IQ SensorNet 2020 XT network. Use the P 700 throughout the wastewater plant from pre-sedimentation to biological tanks to the effluent. The P 700 provides continuous data to help operational efficiency improvement decisions and phosphate elimination verification.

Parameters:

Orthophosphate

Applications:

Wastewater treatment (municipal and industrial); pre-sedimentation, aeration, post-sedimentation, effluent

- Compact design - pump for permeate supply is integrated in the analyzer housing

- Simple system configuration with the IQ SensorNet; measure additional parameters in addition to orthophosphate

- Low reagent consumption - exchange solutions on average every 4-8 months, reduces overall cost vs. other analyzers

- Automatic or manual calibration (adjustable)

- Automatic cleaning function (adjustable)

- Uses proven Vanadomolybdate (yellow) method of detection

- Wide measuring range - two measuring ranges allow the P 700 to be used in a wide range of locations throughout the WWTP

- Indoor or outdoor versions available with heating or cooling

The P 700 filter mounted inside a tank. Easy to clean with water and a brush, bleach, or hydrochloric acid.

Technical Information for Filtration

Membrane Surface Area	155.00 in^2 (1.00 cm^2)
Max. Operating Temp.	113°F (45°C)
Max. Operating Over Pressure	(Raw water to permeate side): 2.0 bar at 68°F (20°C)
Operating Under Pressure (permeate side)	Approximately 0.5 bar at 68°F (20°C)
Materials	Housing: PVC; Seals: NBR; Screws: Stainless Steel

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P 700 IQ Technical Specifications

Measurement Method	Vanadomolybdate (yellow)
Measurement Range PO_4-P	Range A: 0.05 to 15.00 mg/L; Range B: 1 to 50 mg/L
Resolution PO_4-P	Range A: 0.01 mg/L; Range B: 1 mg/L
Accuracy PO_4-P	Range A: ±2% or ±0.05 mg/L, whichever is greater; Range B: ±2% or ±1 mg/L, whichever is greater
Measurement Range PO_4	Range A: 0.15 to 46.00 mg/L; Range B: 3 to 153 mg/L
Resolution PO_4	Range A: 0.01 mg/L; Range B: 1 mg/L
Accuracy PO_4	Range A: ±2% or ±0.15 mg/L, whichever is greater; Range B: ±2% or ±3 mg/L, whichever is greater
Response Time T-90	< 5 minutes
Detection Limit	Range A: 0.05 mg/L PO_4-P; Range B: 1 mg/L PO_4-P
Calibration	Automatic (adjustable) or manual
Dimensions	~26.69 x 30.71 x 15.55 in (~678 x 780 x 395 mm)
Weight	~66 lbs (~30 kg); without reagents
Measuring Interval	Range A: 5 minutes (adjustable) or greater; Range B: 10 minutes or greater
Cleaning Solution	1,000 mL for 4 months with cleaning every 24 hours
Climate Control	Heating, Cooling (fan)
pH range	5 to 9 pH units
Operating Temperature	-20 to 40ºC (-4 to 104ºF) for outdoor unit; 15 to 40ºC (59 to 104ºF) for indoor unit
Storage Temperature	-20 to 50ºC (-4 to 122ºF)
Sample Temperature	4 to 45ºC (39 to 113ºF)
Reagent Consumption	2500 mL for 8 months with measuring range A and 10 minute measuring interval
	2500 mL for 4 months with measuring range B and 10 minute measuring interval
Equipment Safety, Standards	EN 61010-1; UL 3111-1; CAN/CSA C22.2 No. 61010.1
Electrical	115 VAC
Certifications	CE, IP54, UL
Outputs	Relays, analog outputs, various communication protocols, interfaces directly with IQ SensorNet 2020 XT (not compatible with Model 182)

P 700 IQ Orthophosphate Ordering Information* (used with the YSI IQ SensorNet 2020 XT)

Item #8P-000Y	P 700 IQ-I115 Orthophosphate analyzer P 700 IQ, indoor, 115 V **
Item #8P-001Y	P 700 IQ-O115 Orthophosphate analyzer P 700 IQ, outdoor for climate control, 115 V **
Item #8P-010Y	P 700 IQ-PI115 Orthophosphate analyzer P 700 IQ with permeate pump for filtration, indoor, 115 V**
Item #8P-011Y	P 700 IQ-PO115 Orthophosphate analyzer P 700 IQ with permeate pump for filtration, outdoor for climate control, 115 V**
Item #821 988Y	Rail mount for P 700 IQ
Item #821 989Y	Wall mount for P 700 IQ
Item #821 991Y	Stand mount for P 700 IQ
Item #821 987Y	Filter membrane module with premounted membrane
Item #821 972Y	Set of 2 filter membranes for filter membrane module (821987Y) and module case (821973Y)
Item #821 973Y	Module case for filter membranes. Includes module case without filter membranes (order filter membranes separately)
Item #821 971Y	Standard solution 0.0 mg/L PO_4-P (zeroing) for P 700 IQ (1.0 L)
Item #821 997Y	Standard solution 1.6 mg/L PO_4-P for P 700 IQ (1.0 L)
Item #821 996Y	Standard solution 8.0 mg/L PO_4-P for P 700 IQ (1.0 L)
Item #821 995Y	Standard solution 20.0 mg/L PO_4-P for P 700 IQ (1.0 L)
Item #821 998Y	Cleaning solution for P 700 IQ (1.0 L)
Item #821 999Y	Reagent for P 700 IQ for orthophosphate measurement (2.5 L)

* Additional accessories, such as tubing, availabe at YSI.com/PO4 **Power supply not included. Connecting to existing network requires 2020 XT terminal and connection cable SNCIQ; not connecting to an existing network requires 2020 XT terminal and module MIQ/PS. Order items separately.

Visit YSI.com/IQ for additional information on the IQ SensorNet system.

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